# **Red Hill Fuel Storage Facility**

Status Update August 15, 2016

Implementation of Administrative Order on Consent between:

U. S. Navy and Defense Logistics Agency with Hawaii Department of Health and US EPA Region 9

[DateTime]





# Background on AOC

- Why an AOC
- Roles and Responsibilities
- AOC Decision Process
- Stakeholder Involvement
- Work to be Performed

[DateTime]

# Red Hill UST Timeline





12/13/2013 - Tank No. 5 Returned to operation after 4 years of maintenance January 2014, Stain observed below tank No. 5

1/13/2014 - Suspected Release Reported to DOH

1/13 to 1/16/2014 – Fuel removed from tank

4/24/2014 - Navy begins visual inspection inside Tank No. 5

5/13/2014 - Inspection of tank floor and lower dome completed

5/27/2014 - Begin inspection of tank walls

6/13/2014 - Navy confirms three holes a the 90-foot elevation

6/27/2014 - Navy update confirms a total of seventeen holes

[DateTime]





## Administrative Order on Consent (AOC)

3/14/2014 - DOH/EPA develop 14 points of action

6/25/2014 - Draft AOC transmitted to Navy

5/27/2015 – Navy signs AOC

6/18/2015 - Public Comment on AOC

9/27/2015 – Changes made to AOC and signed by Navy

9/28/2015 - AOC signed by DOH/EPA

[DateTime]

# Key Features of the AOC





Protects groundwater resources

Ensure that Facility is operated in an environmentally protective manner

Requires the Navy/DLA to:

Reduce the risk of future fuel releases

Investigate and remediate releases to protect

drinking water supplies

Obtain DOH and EPA approval for all work

[DateTime]

# How is the AOC enforceable?





Monetary penalties for failure to comply (AOC Section 15)

Dispute resolution process places EPA (OUST) as the ultimate decision maker if needed (AOC Section 14)

Establishes required work and schedules for the Navy/DLA (AOC Section 6)

The Statement of Work attached to the AOC provides the details of work to be performed and schedules.

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### Summary - Work to be Performed

- Section 2 Tank Inspection, Repair, and Maintenance
- Section 3 Tank Upgrade Alternatives
- Section 4 Release Detection / Tank Tightness Testing
- Section 5 Corrosion and Metal Fatigue Practices
- Section 6 Investigation and Remediation of Releases
- Section 7 Groundwater Protection and Evaluation
- Section 8 Risk and Vulnerability Assessment



## **Scoping Meetings**

• 11/30 – 12/4/2015: 55+ Participants

• 5/9-13/2016: 60+ Participants

Includes: U.S. Navy, DLA, EPA and DOH

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### **External Subject Matter Expert Involvement**

 AOC States ".. intent of the Parties to seek the advice of subject matter experts, such as ... for scoping and review of key deliverables. The Parties shall take actions that facilitate sharing of information with subject matter experts ..."

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### **External Subject Matter Experts**

- Three External Parties with Subject Matter Expertise Engaged in the AOC Implementation Process
  - Hawaii Department of Land and Natural Resources (DLNR)
  - United States Geologic Service (USGS)
  - Honolulu Board of Water Supply (BWS)

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# Recent External Subject Matter Expert Involvement

- Agencies Facilitated Meetings in May with Parties and External Subject Matter Experts to Discuss Comments on Key Deliverables.
- Agencies Have Facilitated the Sharing of Documents and Information with External Subject Matter Experts and the Public.

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# Section 2 – Tank Inspection, Repair and Maintenance (TIRM)

Specific Task	AOC Deadline	Current Status
Scoping Meetings (2.1)	Start within 30 Days from effective date of AOC	Scoping Completed
TIRM Procedures Report (2.2)	Within 120 days from final scoping meeting	Revised Draft Outline for TIRM Procedures Report received from Navy March 23, 2016
Decision Meeting (2.3)	Within 60 days of TIRM Procedures Report	

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### Key Findings to Date Related to TIRM

- Tank 5 Inspection, Repair and Maintenance was Done by a Different Contractor than Prior Tanks
- Quality Assurance and Quality Control Procedures Very Critical
- Clear Opportunities for Improvement in Contracting and Procedures

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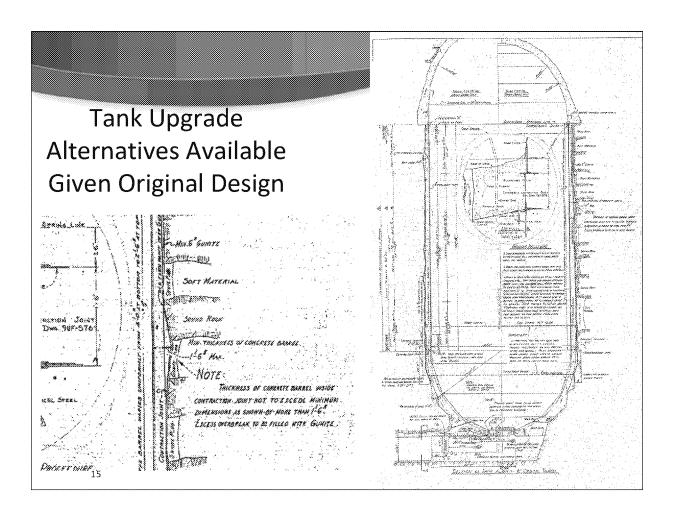




# Section 3 – Tank Upgrade Alternatives

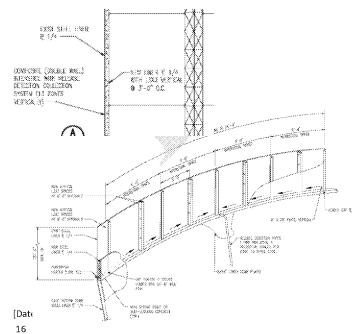
Specific Task	AOC Deadline	Current Status
Scoping Meeting	Start within 30	Scoping
(3.1)	days from	Completed
	effective date of	
	AOC	
Scope of Work	Within 90 days	Draft SOW
(3.2)	from final	Outline
	Scoping Meeting	submitted
		Jan 29, 2016
TUA Report	Within 12	
(3.3)	months of SOW	
	Approval	

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#### Primary Tank Upgrade Alternatives to Be Considered



- Double Wall
  - Composite
  - Tank within Tank
- Single
  - Restoration of Existing Single Liner
  - Replacement of Liner with New Single Liner



# **Key Tank Upgrade Considerations**

- Effective Containment of Fuel
- Condition of Existing Infrastructure
- Risk and Vulnerability
- Overall Engineered System vs. Focus on Single Components of System
- Ability to Repair and Maintain
- Cost vs. Benefit

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Section 4 – Release Detection and Tightness Testing

Specific Task	AOC Deadline	Current Status
TTT Frequency	Within one year	
Increase (4.1)	of effective date	
	of AOC	
Outline RD	Within 30 days of	Approved by
Monitoring	effective date of	Agencies
System Report	AOC	
(4.2)		
RD Monitoring	Within 60 days of	Submitted April
Systems Report	Outline Approval	4, 2016, Agency
(4.3)		Approval Pending
Scoping Meetings	Within 60 days of	
for New RD	Agencies'	
Alternatives (4.4)	Approval of RD	
	Monitoring	
	Systems Report	



# Release Detection and Tightness Testing Report - Key Issues

- Frequency
- Precision
- Impact of False Positives
- Opportunities for Improvements

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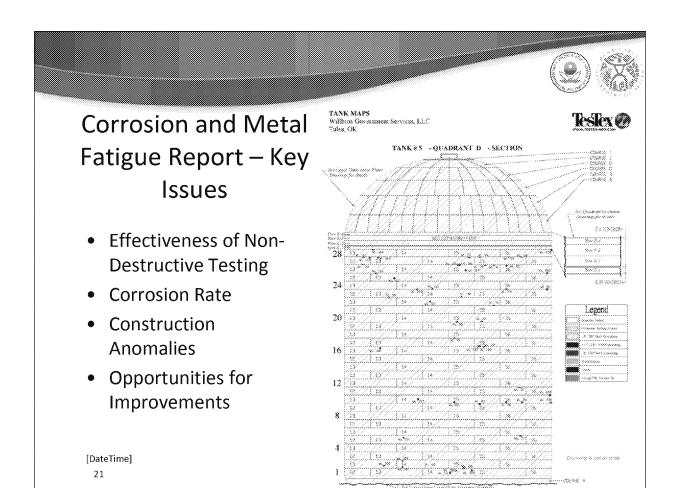
Section 5

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Corrosion and Metal Fatigue Practices

Specific Task	AOC Deadline	Current Status
Report Outline	Within 30 days of	Approved by
(5.1)	effective date of	Agencies
	AOC	
Corrosion and	Within 60 days of	Submitted
Metal Fatigue	Outline Approval	April 4, 2016,
Practices Report		Agency Approval
(5.2)		Pending
Scoping for	Within 90 days of	
Destructive	Agencies'	
Testing (5.3.1)	Approval of	
	Corrosion and	
	Metal Fatigue	
	Practices Report	

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# Section 6 – Investigation and Remediation of Releases

Specific Task	AOC Deadline	Current Status
Scoping Meetings	Within 30 days of	Complete
(6.1)	effective date of	
	AOC	
Scope of Work	Within 60 days of	Submitted
(6.2)	Final Scoping	May 4, 2016,
	Meeting	Agencies'
		Approval Pending
Investigation and	Within 24	
Remediation of	months of the	
Releases Report	Agencies'	
6.3)	Approval of the	
	SOW	

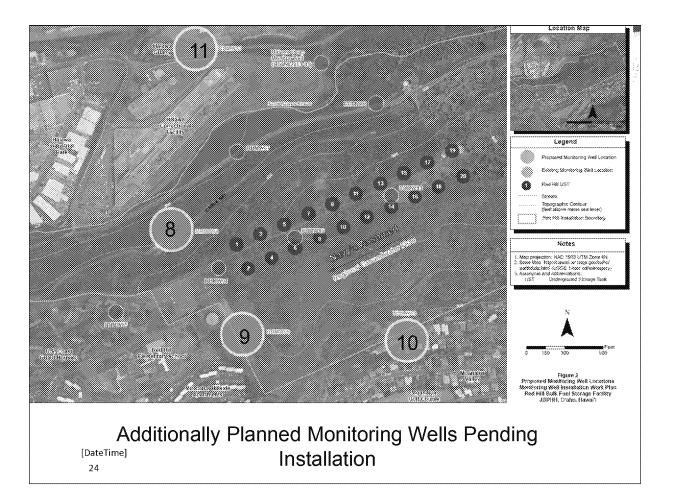
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### Section 7 – Groundwater Protection and Evaluation

Specific Task	AOC Deadline	Current Status
Scoping Meeting for Groundwater Flow and Fate & Transport Model Report (7.1.1, 7.2.1)	Within 30 days of effective date of AOC	Complete
Groundwater Flow and Fate & Transport Model SOW (7.1.2, 7.2.2)	Within 90 days of Final Scoping Meeting	Submitted May 4, 2016, Agencies' Approval Pending
Groundwater Flow Model Report (7.1.3)	Within 24 months of Agencies' Approval of SOW	
Fate & Transport Model Report (7.2.3)	Within 6 months of Agencies' Approval of the Groundwater Flow Model Report	
Scoping Meeting for Groundwater Monitoring Well Network (7.3.1)	Within 30 days of effective date of AOC	Complete
Groundwater Monitoring Well Network SOW (7.3.2)	Within 90 days of Final Scoping Meeting	Submitted May 4, 2016, Agencies' Approval Pending/ Monitoring Well Installation Workplan submitted April 26, 2016/Agencies' partial approval on June 17, 2016
Groundwater Monitoring Well Network (7,3.3)	Within 12 months of Agencies' Approval of Groundwater Flow Model Report	,

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## Contaminants of Potential Concern (CoPC)

- Current list of Analytes includes 12 compounds:
  - Total Petroleum Hydrocarbons (TPH-d, TPH-o, TPH-g)
  - BTEX (Benzene, Toulene, Ethylbenzene, Xylenes)
  - Napthalenes (Napthalene, 1-Methylnapthalene, 2-Methylnapthalene)
  - Lead Scavengers (1,2 Dichloroethane, 1,2
     Dibromoethane)

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### Contaminants of Potential Concern (CoPC)

- Since 2005, Navy has collected quarterly samples and analyzed them for 64 separate compounds
- 52 of these 64 compounds have generally not been detected in samples collected.
  - Some compounds have been detected but at levels significantly below State Environmental Action Levels

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#### Contaminants of Potential Concern (CoPC)

- The 52 compounds that the Regulatory Agencies agreed to remove from the analyte list are not constituents of the fuel being stored at Red Hill.
- As per comments from the BWS, Navy will provide a list of all fuel additives currently in fuel used at Red Hill.
- Final COPC list may be revised based on our review of fuel additives.

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# Section 8 – Risk and Vulnerability Assessment

Specific Task	AOC Deadline	Current Status
isk and Vulnerability Scoping  Mage (8.1)	Begin within 30	In progress. Next
	1	scoping meeting
	date of AOC	needs scheduling
	Within 90 days of	
(8.2)	final scoping mtg	

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# Risk and Vulnerability Assessment – Key Issues Discussed to Date

- Establishing Probability and Magnitude of Future Major Releases
- Identifying Vulnerabilities
- Interaction Between Section 8 Work and Work Being Done Under Other Sections of the AOC

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## **UPCOMING EVENTS**

August 29 – September 1 Scoping Meeting for Section 8 (San Francisco)

October 4 – 5 AOC Meeting (Department of Health)

October 6 – Informational Meeting at Moanalua Middle School ~6:30 – 9pm

October 6 – Fuel Advisory Committee Meeting (per HB 2646)

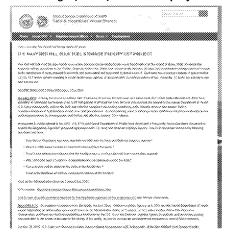
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#### Information Available to the Public

#### **DOH Website**

health.hawaii.gov/shwb/ust-red-hill-project-main/

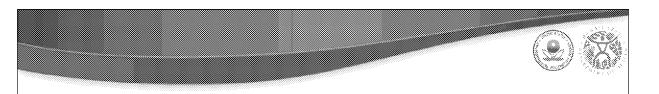


#### **EPA Website**

www.epa.gov/red-hill



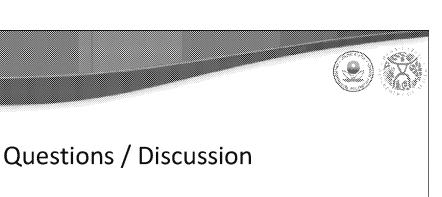
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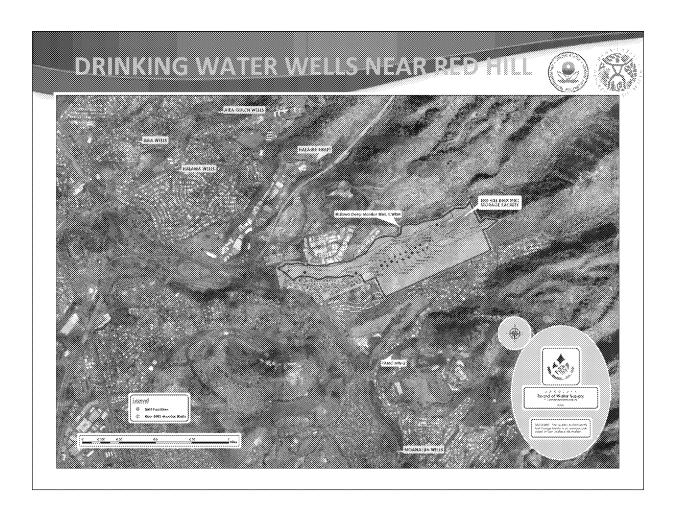


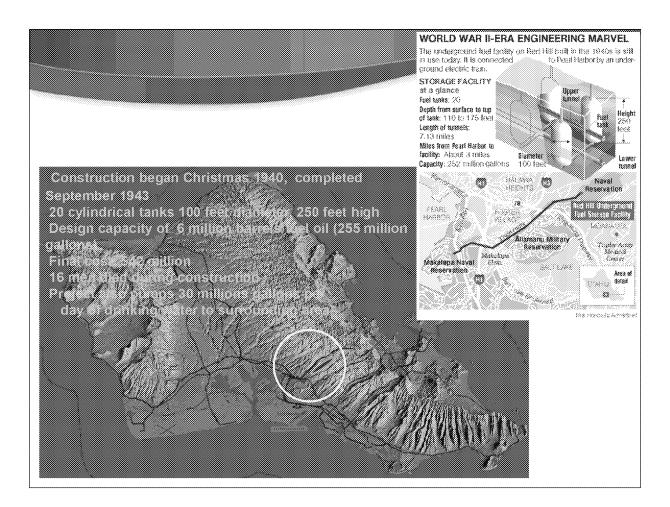
https://www.youtube.com/watch?v=7nL10C7FSbE

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#### **GENERAL PROCESS FOR KEY WORK TASKS**

All tasks generally follow a similar process:

**Study Phase** 

**Decision Document** 

Implementation

The timelines vary by task